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GB 1587377
GB 1435632
GB 1008223
GB 821042
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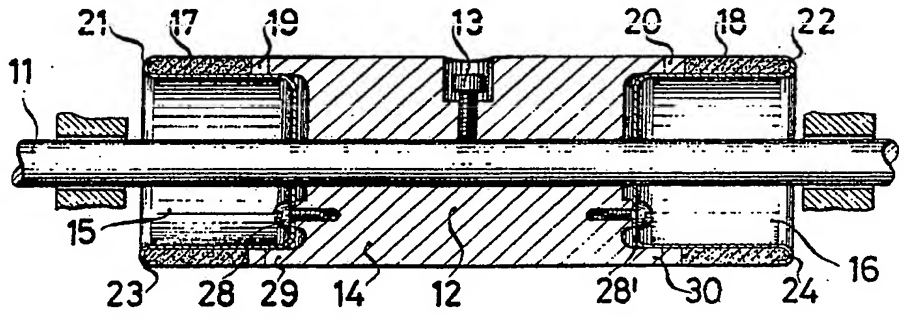
(54) **Friction-drive roller for rotating a textile bobbin**

(57) A friction-drive roller for rotating a textile bobbin consists of a multi-part drive roller body and a dismountable, separable annular drive lining at each roller and which is positively clamped together with the drive roller body and has a high frictional value. A drive lining (17, 18) is provided at each end of the drive roller and the drive roller body (12) consists of a central part (14) and two edge parts, at least the central part (14) being positively clamped together by serrations 19, 20 with each of the two drive linings (17, 18).

FIG. 1



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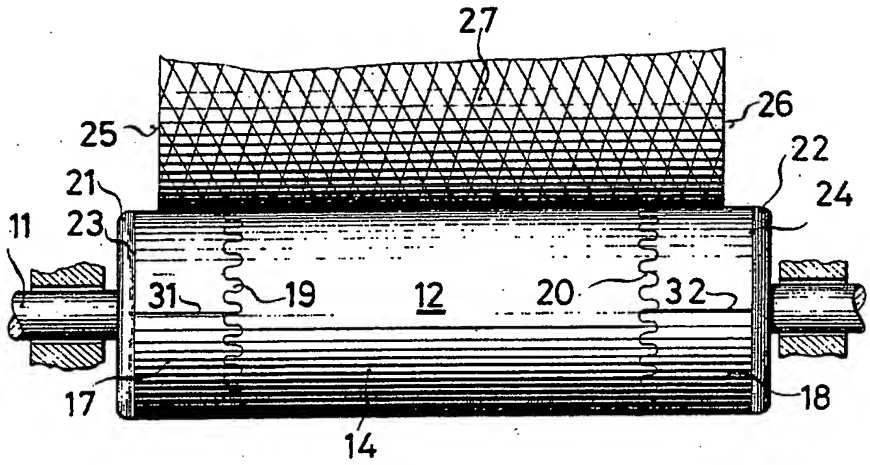
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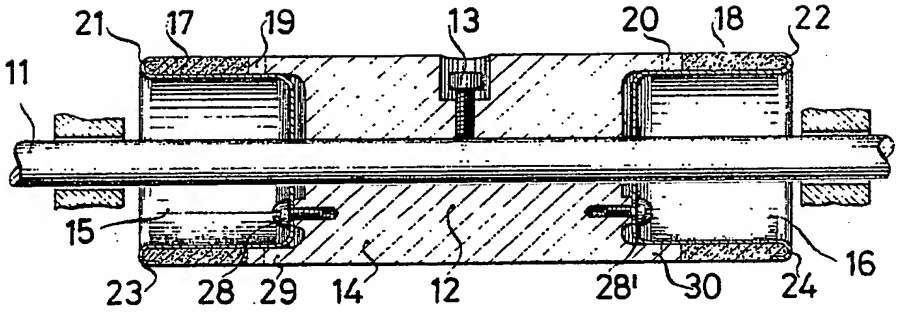
14

FIG. 2

FIG. 1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SPECIFICATION

Drive roller for winding a textile bobbin

The invention relates to a drive roller for winding a textile bobbin, having a multi-part drive roller body and a dismountable, separable annular drive lining which is positively clamped together with the drive roller body and has a high frictional value. The invention described in Patent Application No. 14542/78 (1587377) solved the problem of preventing the formation of a ball of yarn on the roller and simultaneously allowing the exchange of a worn drive lining without dismantling the drive roller body or the central shaft.

However, during the winding of large cylindrical cross-wound cones, difficulties have arisen when the drive lining is provided only in the centre of the drive roller. Large-volume cylindrical cross-wound cones are more compact in construction at the ends, so that the drive roller tends to slip as the cone fullness increases.

The task underlying the invention is to improve the device mentioned above and described in the above referenced application in such a way that it is also possible to wind large-volume, more especially cylindrical textile bobbins of satisfactory quality. As in the invention disclosed in the patent application referred to above, the aim is to prevent the formation of a ball of yarn on the roller and simultaneously to allow the exchange of a worn drive lining without dismantling the drive roller body or the central shaft.

According to the invention, this problem is solved in that a drive lining is provided at each end of the drive roller and in that the drive roller body consists of a central part and two edge parts, at least the central part being positively clamped together with each of the two drive linings.

Due to such a design of the drive roller, it is still possible to exchange a drive lining in a simple and fast manner. But, at the same time, the winding of satisfactory large-size bobbins is rendered possible due to the fact that the drive linings are located beneath the bobbin ends, where the construction of the bobbin is particularly compact. Any slipping of the driving roller is no longer possible, even if the bobbin construction is large in volume.

Advantageous further developments of the invention are described herein. The design of the edge parts of the drive roller body as cup-like drawn sheet-metal parts furthermore causes a saving in material weight and a reduction in the mass of the rotating parts. Another advantage of the invention is to be seen in that, because of the drive linings having been doubled, the wear thereof does not become noticeable so rapidly by a reduction in quality and in that the drive linings can be replaced without the aid of tools. This does not even necessitate a partial dismantling of the drive roller body.

An exemplified embodiment of the invention is shown in the drawings. With the aid of this exemplified embodiment, the invention will be described and explained in more detail in the following text.

In the drawings:—

FIGURE 1 shows a section through the drive roller of a winding unit, and

FIGURE 2 shows the same drive roller in a front view with a textile bobbin resting thereon.

There is discernible a central shaft 11 which extends from winding unit to winding unit in a winding machine, which is not shown in detail, and is shown broken off. Secured on the central shaft 11 is a drive roller body, which is designated 12 as a whole, by means of a screw 13. The drive roller body 12 consists of three parts, namely a central part 14 and the two edge parts 15 and 16. Herein, the drive linings 17, 18 of a high frictional value are located at the ends of the drive roller. The central part 14 is positively clamped together with each of the two drive linings 17, 18 by means of radial serrations provided along the radially directed parting lines 19, 20. It is impossible for the thread to enter these radial serrations during winding.

The edge parts 15, 16 of the drive roller body 12 are designed as cup-like drawn sheet-metal parts which extend as far as the central part 14 and which have at the ends flanged edges 21, 22 which are in contact with the drive linings 17 and 18 respectively. Each of the two edge parts 15, 16 overlaps by means of the flanged edges the associated drive linings 17 and 18 respectively along the radially directed parting lines 23 and 24 respectively. The parting lines 23 and 24 between the edge parts 15 and 16 respectively and the drive linings 17 and 18 respectively are provided outside the edge 25 and 26 respectively of the textile bobbin 27 to be wound.

One discerns in the drawing of Fig. 1 that the cup-like edge parts 15, 16 are secured to the central part 14 by means of screws, 28, 28'. The central part 14 has edges 29, 30 which are designed in a ring-like manner and into which the edge parts fit. As can also be seen in Fig. 1, the edge parts serve as true seatings for the drive linings 17, 18. One discerns in the drawing of Fig. 2 that the drive lining 17 has a parting line 31 and the drive lining 18 has a parting line 32. These are pre-perforated parting lines which, in the new drive lining, need not yet be completely cut. However, when the drive lining is to be replaced, the pre-fabricated parting line is fully cut with a knife and the drive lining is urged by means of a screw driver from the interlock with the central part 14 and from the flanged edges 21 and 22 respectively. The fitting of a replacement drive lining is effected in the reverse order, the somewhat rubber-elastic drive lining being first forced behind the flanged edges 21 and 22 and is then pressed into the serrations, for which no tool at all is required.

CLAIMS

1. A drive roller for winding a textile bobbin, consisting of a multi-part drive roller body and a dismountable, separable annular drive lining

which is positively clamped together with the drive roller body and has a high frictional value, characterised in that a drive lining (17, 18) is provided at each end of the drive roller and in that the drive roller body (12) consists of a central part (14) and two edge parts (15, 16), at least the central part (14) being positively clamped together with each of the two drive linings (17, 18).

2. A drive roller as claimed in Claim 1, characterised in that the central part (14) and the drive linings (17, 18) have radial serrations along the radially directed parting lines (19, 20).

3. A drive roller as claimed in Claim 1 or 2, characterised in that each of the two edge parts (15, 16) overlaps the associated drive lining (17, 18) along the radially directed parting line.

4. A drive roller as claimed in one of Claims 1 to 3, characterised in that the parting line (23, 24) is provided between the edge part (15, 16) and the drive lining (17, 18) outside the edge (25, 26) of the textile bobbin (27) to be wound.

5. A drive roller as claimed in one of Claims 1 to 4, characterised in that the edge parts (15, 16) of the drive roller body (12) are designed as cup-like drawn sheet-metal parts which extend as far as the central part (14) and which have at the ends flanged edges (21, 22) which are in contact with the drive lining (17, 18).

6. A driver roller for winding a textile bobbin, substantially as described herein with reference to the accompanying drawings.

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